

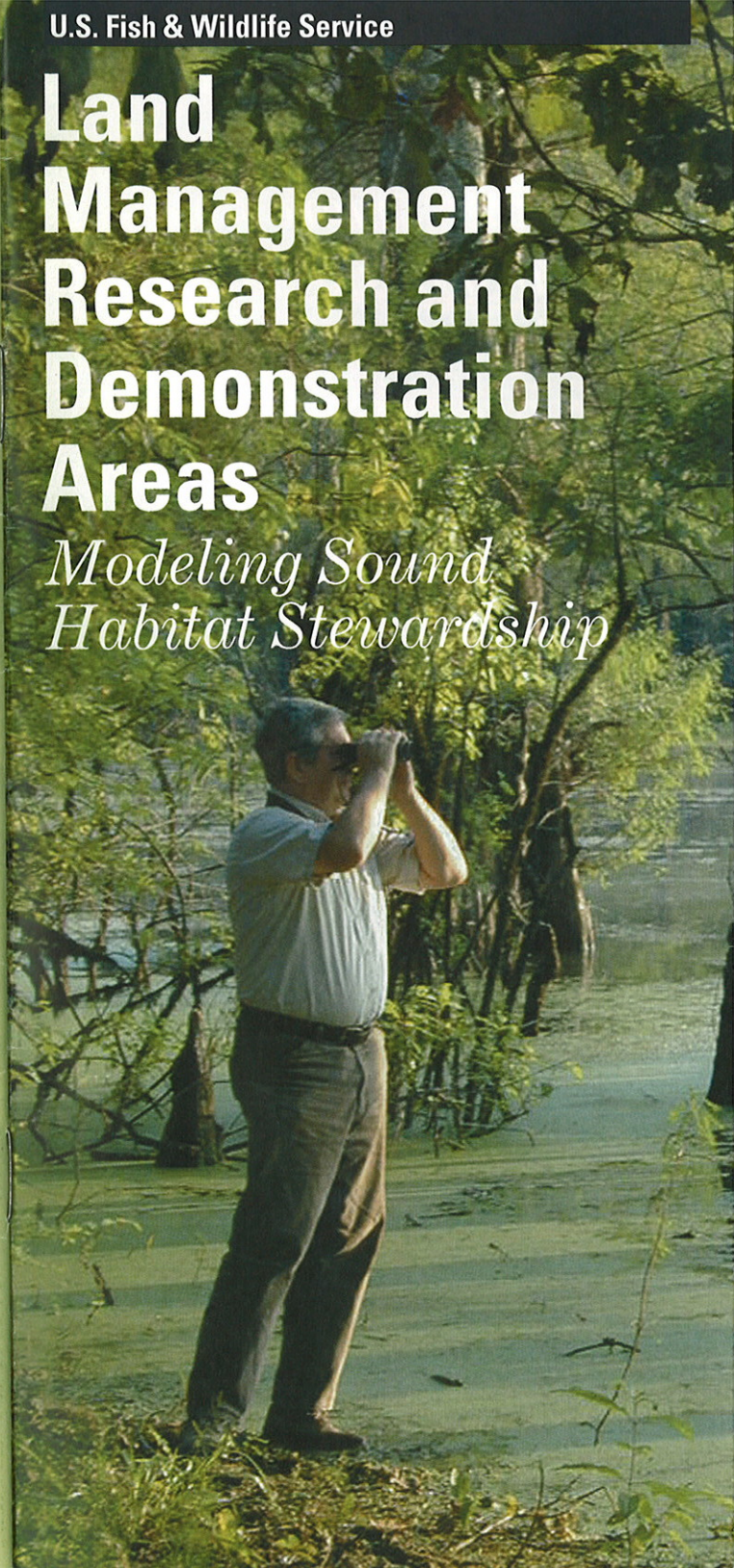


U.S. Fish & Wildlife Service
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U.S. Fish & Wildlife Service

Land Management Research and Demonstration Areas

*Modeling Sound
Habitat Stewardship*





*Land Management
Demonstration Areas
are places where new
habitat management
techniques and
approaches are
developed, implemented
and showcased – places
where professional land
managers and others
come to learn about
cutting edge habitat
management techniques
and technology and
carry back with them
the information and
knowledge which allows
them to better manage
their own lands.*

Fulfilling the Promise, 1999

Hanford Reach National Monument, Washington, USFWS



Refining Wildlife and Habitat Management for the Future

Land Management Research and Demonstration Areas are managed by the U.S. Fish and Wildlife Service on national wildlife refuges and wetland management districts throughout the country. They serve as institutions of investigation, innovation and instruction in wildlife and habitat management.

Founded on a Century of Experience

The Service is uniquely qualified to demonstrate land management techniques that provide healthy, sustainable habitats for fish, wildlife, and plants. Its 95-million-acre National Wildlife Refuge System provides an unequalled backdrop for study and development of new techniques. With its "wildlife first" emphasis, the System is the only Federal network of lands dedicated to wildlife conservation and habitat management.



Monitoring water depth.



Inspecting nest.

Habitat management research is a tradition on national wildlife refuges. Since the establishment of Pelican Island Refuge in 1903, refuge staffs have continually tested and refined management techniques. Methods such as wetland restoration, reforestation, and prescribed fire have been used and improved on refuges for more than 100 years.





Conducting
research on
neotropical birds.

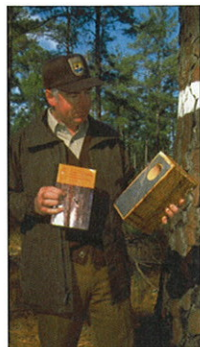
In 1999, the Service published *Fulfilling the Promise*, a vision for the National Wildlife Refuge System. One of the document's recommendations was to establish Land Management Research and Demonstration Areas on refuges to serve as centers of habitat management excellence. Fourteen Demonstration Areas have been designated throughout the country and will become operational as funding permits. Each is located on one or more national wildlife refuges and wetland management districts and focuses on a particular habitat type or wildlife management issue.



Selective logging (above) and prescribed burning (below) enhance wildlife values.



Providing critical food supplies for migrating waterfowl.



Installing nest boxes for the Red Cockaded Woodpecker.

Breaking New Ground

At each Demonstration Area, a specialized biologist oversees the research, development, and testing of new management techniques. Through wildlife inventories and habitat monitoring, the site becomes a repository of data and information about its featured habitat or management issue. Refuges with similar habitats or issues serve as test sites for identifying site-specific variables that may affect new methods.

Pooling Resources

Partnerships are a key element of Demonstration Areas. Site biologists work closely with regional biologists and those at other refuges, Federal and state agencies, universities, and non-profit organizations to further the cause of sound wildlife management. Researchers from other organizations conduct studies on the refuge, in coordination with on-going research into refuge needs. Graduate students participate in cutting-edge work. By bringing together researchers with varied backgrounds, skills, and perspectives, Demonstration Areas provide fertile ground for novel ideas and approaches.



Intern assisting refuge staff controlling invasive species. USFWS

Increasing Knowledge and Opportunity

Once new techniques have been developed and tested, Demonstration Area biologists share their expertise with refuge managers, academic researchers, and private landowners. Through tours, workshops, and courses, land managers from all backgrounds and locations view ongoing land management practices, as well as the results of past management. Details such as the costs and potential impacts, both positive and negative, of the techniques are provided in professional papers and on web sites so that managers can fully evaluate techniques for their own purposes.

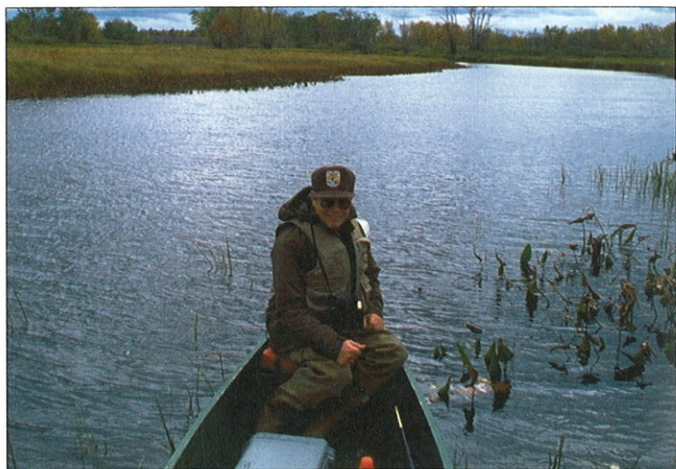


Bird banding helps track migration patterns. USFWS

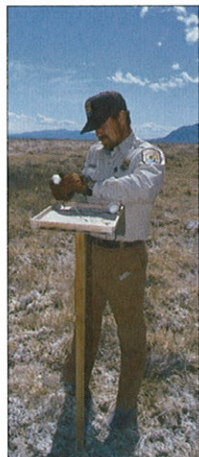
Conducting a refuge inspection via airboat.



Vegetation monitoring using point intercept method. USFWS



Exploring refuge backwaters in a canoe.



Installing predator guards.

Demonstration Areas offer Service staff opportunities for career advancement and development. With higher-graded biologist positions, these sites extend the career ladder for biological field staff. Interns, temporary employees, and Student Conservation Experience Program participants further their professional development by working at Demonstration Areas, while other employees find mentors in site biologists. The sites also serve as field locations for technical courses taught by the Service's National Conservation Training Center.



*Propagating beetles for biological control of purple loosestrife.
USFWS*



In Memory

John P. Taylor, senior wildlife biologist at Bosque del Apache Refuge (NM) and the Refuge System's first Land Management Research and Demonstration site biologist, died of a major stroke September 27, 2004.

John was named Refuge System Employee of the Year by the National Wildlife Refuge Association in 2003 and was recognized as a Recovery Champion in 2002. Widely respected for his expertise and unwavering commitment to habitat conservation and restoration, John began his career with the Service in 1978 at Crab Orchard Refuge (IL) as a biological science student trainee. In January 1981, he became refuge manager (trainee) at Minnesota Valley Refuge until he moved to the Caribbean Islands Refuge - Culebra Island, Puerto Rico, as refuge manager. He joined the staff at Bosque del Apache Refuge in December 1985.

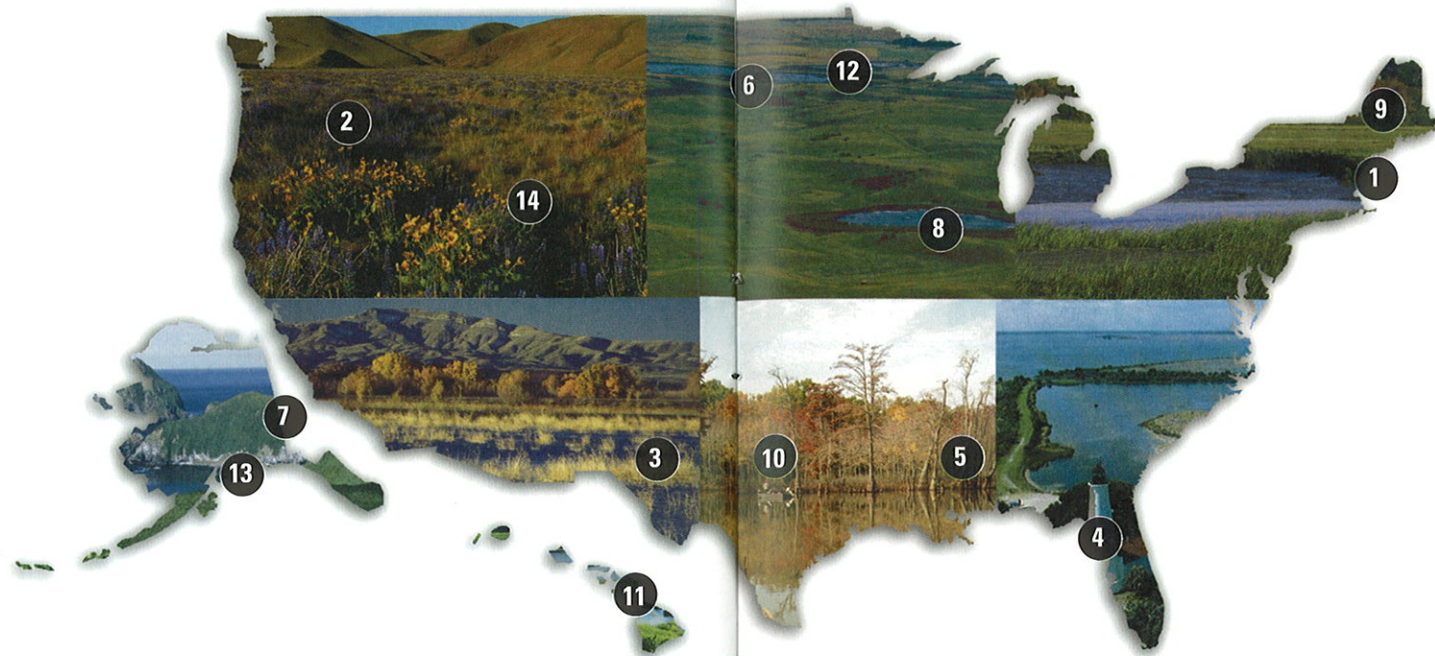
Drawing on the Past; Bestowing Upon the Future

The National Wildlife Refuge System's rich heritage of natural resource stewardship, vast network of lands, and committed contingent of biologists are the cornerstones of Land Management Research and Demonstration Areas. The System's broad base of experience and habitat diversity provides a foundation for discovery and demonstration of new management techniques. Through these Demonstration Areas, the Fish and Wildlife Service and its partners will shape the face of wildlife and habitat management in the next century.



Conducting waterfowl surveys.

U.S. Fish & Wildlife Service Land Management Research and Demonstration Areas



Note: The numerical order depicted above reflects the U.S. Fish & Wildlife Service's prioritized ranking of LMRD sites.

1

*Coastal
Saltmarsh*



Rachel Carson and Parker River Refuges

(Maine and Massachusetts)

Tidal salt marshes are found along the Atlantic and Gulf coasts from Maine to Texas, extending over 1,000 coastal miles. They are among the most productive habitats on earth and home to a wealth of plant and wildlife species. With over 90 percent of the salt marshes in the northeastern U.S. altered, these refuges provide a unique opportunity to advance the science and implementation of sustainable restoration of this imperiled habitat.

2

Shrub Steppe



Hanford Reach National Monument /Saddle Mountain Refuge

(Washington)

Sagebrush-steppe is among the most widespread semi-arid ecosystems in the western United States, encompassing over 100 million acres. Several species rely on this habitat and are found nowhere else, including sage-grouse, which no longer exists in five states and is declining throughout its range.

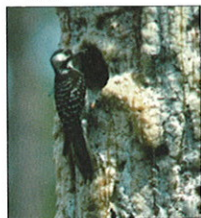
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Managed Arid Wetlands and Riparian Areas



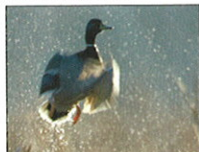
4

Longleaf Pine



5

Bottomland Hardwood



6

Tallgrass Prairie, Mixed Grass Prairie, Dense Nesting Cover, Wetlands



Bosque del Apache Refuge

(New Mexico)

The Rio Grande corridor provides an ideal opportunity for studying wetland and riparian restoration and management in an arid environment. A key element in this effort is the control of invasive species such as saltcedar and perennial pepperweed. Techniques are shared with other arid land management areas across the western United States and Mexico.

St. Marks and Carolina Sandhills Refuges

(Florida and South Carolina)

With only 3 million of an original 92 million acres remaining, longleaf pine is one of the most endangered habitat types in the nation and supports the Federally endangered red-cockaded woodpecker and the threatened indigo snake and gopher tortoise. The refuges are restoring and managing the range of subtypes of longleaf pine forest, from xeric sandhills to mesic flatwoods and hydric savannahs.

White River, Cache River, and Bald Knob Refuges

(Arkansas)

With more than 224,000 acres, the refuges are part of the largest remaining contiguous forested wetland complex in the Mississippi Alluvial Valley and include the most important wintering areas for mallards on the continent.

Northern Great Plains Refuges

(Northern Prairie Wildlife Research Center, North Dakota)

The prairie pothole region is one of the nation's most biologically diverse and productive ecosystems and encompasses a 776,940-square-kilometer area in North Dakota, South Dakota, Minnesota, Montana, and Iowa. It is the most important waterfowl breeding area in the nation and provides critical habitat for declining grassland birds, migrating shorebirds, wading birds, and amphibians.

7

Boreal Forest



8

Tallgrass Prairie and Oak Savanna



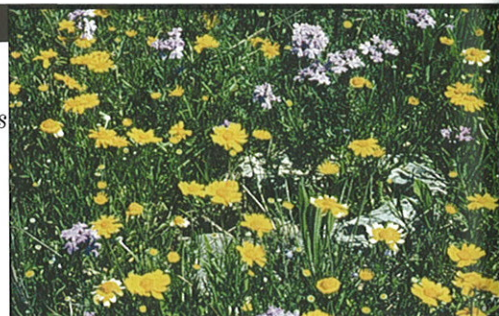
9

Northern Forest



10

Juniper-oak Woodlands, Live Oak Motts, and Tallgrass Prairie Remnants



Tetlin Refuge

(Alaska)

The boreal forest is the world's largest terrestrial ecosystem and includes eight national wildlife refuges in Alaska, totaling 30 million acres (more than 30% of all national wildlife refuge lands). The refuge studies the effects of wildland and prescribed fire, oil, gas and mining development, subsistence use of resources, and increasing tourism on boreal forest habitat.

Neal Smith/Northern Tallgrass Prairie Refuges

(Iowa)

The refuges are dedicated to restoration and preservation of Midwestern grassland ecosystems, including the globally endangered tallgrass prairie and oak savanna. The unprecedented scale of prairie reconstruction at Neal Smith Refuge provides research opportunities for increasing technical knowledge of prairie restoration and management.

Lake Umbagog/Silvio Conte/Moosehorn Refuges

(New Hampshire, Maine and Vermont)

The 26-million-acre eastern spruce-hardwood forest supports significant numbers of forest-associated neotropical migrant birds, many of which have experienced substantial declines during the past 30 years. The refuges will develop best economical forest management practices for wildlife and disseminate the information to private timber companies, which own much of the forested land base.

Balcones Canyonlands Refuge

(Texas)

The refuge provides nesting habitat for two endangered neotropical migrants -- the Golden-cheeked Warbler and the Black-capped Vireo -- as well as several species of native plants and animals. The site will demonstrate to Central Texas landowners in the Hill Country how to manage for endangered species, restore native grasslands, and reduce the presence of invasive plant species using prescribed fire and other restoration techniques.

11

*Tropical
Wetland***Kauai Refuge****(Hawaii)**

Most historical wetlands throughout Hawaii have been lost to urbanization and agriculture. Those remaining are critical to the viability and recovery of endangered waterbirds. Work at this site will promote that recovery, as well as support biological diversity and integrity.

12

*Prairie
Wetland
Complex***Fergus Falls Wetland Management District****(Minnesota)**

Located in the 300,000-square-mile Prairie Pothole Region, which annually produces 50-75% of the ducks raised in North America, the site includes a wide array of U.S. Fish and Wildlife Service field stations and their partners. Studies focus on restoring, enhancing, protecting and managing prairie wetland complexes for not only waterfowl but all native species of flora and fauna.

13

*Island
Ecosystems***Alaska Maritime Refuge****(Alaska)**

Providing critical nesting habitat for 30 species of marine birds and 5 species of marine mammals, as well as terrestrial maritime tundra habitats for at least 50 endemic forms, the refuge is the setting for the study of invasive species management and island restoration, along with long-term ecological monitoring.

14

*Wildlife
Health***National Elk Refuge/National Bison Range****(Wyoming and Montana)**

As steward of the Nation's wildlife resources, the Service has a vested interest in understanding wildlife health and managing wildlife and habitat in a manner to minimize, mitigate or prevent wildlife diseases. Encompassing several locations, the site focuses on the integration of the principles of disease ecology, habitat quality, and current and future land management practices in relation to wildlife.